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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,301	04/16/2004	Shin Koide	119129	7757

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EXAMINER
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NGUYEN, DUNG T

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/825,301

Applicant(s)

KOIDE ET AL.

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-12 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/4/06; 2/27/2006  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicants' amendment dated 05/15/2006 has been received and entered. By the amendment, claims 1-12 are pending in the application.

Applicant's arguments with respect to claims 1 and 8 have been considered but are moot in view of the new ground(s) of rejections as follow.

#### ***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3 and 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al., US Patent 6,633,359, in view of Murade, US Patent No. 6,297,862 and Jeong, US Patent No. 6,137,551.

Regarding claims 1, 8, 11 and 12, Zhang teaches and discloses a liquid crystal display device comprising an active matrix substrate (Figure 1, first substrate 1) having a plurality of scanning lines (Figure 2, scanning lines 15) and a plurality of data lines (Figure 2, signal lines 11) provided such that they intersect each other (See Figure 2), thin film transistors (Figures 1 and 2, TFT 25) provided in association with intersections of data lines (Figure 2, signal lines 11) and scanning lines (Figure 2, scanning lines 15) and pixel electrodes (Figures 1 and 2, pixels 24) connected to the thin film transistors (Figures 1 and 2, TFTS 25), an opposing substrate (Figure 1, second substrate 3) disposed such that it opposes the active matrix substrate (Figure 1, first substrate 1) and a liquid crystal layer (Figure 1, liquid crystal "E") the thin film transistors are formed of P-type transistors having semiconductor layers (Figure 1 IC, P-type TFTS 75b and

Art Unit: 2871

polysilicon layers 41a and 41c), a plurality of gate electrodes (identified as '<G" in Figure 2) intersecting the semiconductor layers at a plurality of locations and LDD portions in which P-type lightly doped regions are formed at least on one side of channel regions of the semiconductor layers (See Figure 1 ID for example and Column 13, Lines 25-30).

Zhang et al. do not appear to explicitly specify a light shielding device provided on both sides in a direction of thickness of the thin-film transistors. Murade teaches and discloses a light shielding structure of a substrate for a liquid crystal device, liquid crystal device and projection type display device and teaches a first light shielding film below the channel region of a TFT and a second light shielding film above the channel region (Abstract, Figure 6, channel region, first light shield film 7 and second light shield film 3). it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Zhang in view of Murade to prevent light from entering the channel region and to minimize leakage current generated from a TFT exposed to light (Column 2, Lines 1-10).

Zhang et al. nor disclose a capacitance line and a capacitance electrode to form a storage capacitor. Jeong does disclose an LCD device having a capacitance line (22) extending in parallel to the plurality of a scanning line (13L) and a semiconductor layer (11) extended substantially to the center of each of the plurality of pixel regions (17) to form a capacitance electrode (21). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ a capacitance line and a capacitance electrode in the Zhang et al. device as shown by Jeong's figure 1 for the purpose of improving a storage capacitor in an LCD device.

Thus- claims 1, 8, 11 and 12 are rejected.

Art Unit: 2871

Regarding claims 2, 3, 9 and 10, Murade the second light shielding film (3) of Figure 6 is a data line (Column 13) and it overlaps the channel region (1c) to serve as a light shield. Thus, claims 2, 3, 9 and 10 are rejected.

Regarding claim 5, Murade the scan line (2) covers the channel region (1c of Figure 6). Thus, claim 5 is rejected.

Regarding claim 6, Murade the semiconductor layers are at least polysilicon (Column 10, Lines 40-50). Thus, claim 6 is rejected.

Regarding claim 7, Murade also teaches a black matrix (Figure 2, black matrix 6) is formed on the opposing substrate at a position corresponding to the channel regions. Thus, claim 7 is rejected.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al., US Patent 6,633,359, in view of Murade, US Patent No. 6,297,862 and Jeong, US Patent No. 6,137,551 and further in view of United States Zhang, US Patent No. 5,717,224.

Regarding claim 4, Zhang does not appear to explicitly specify a reflective layer formed on the active matrix substrate to perform reflective display and a part of the reflective layer formed such that it plenary overlaps the channel regions of the semiconductor layers so as to constitute the light shielding device. Zhang '224 teaches and discloses a semiconductor device having an insulated gate field effect thin film transistor and teaches a channel region (Figure 5, channel region 508) and an electrode and wiring line that covers the channel region (Figure 5, gate electrode 504).

Art Unit: 2871

It would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Zhang '359 in view of Zhang '224 to prevent light from reaching the channel region and to render stable the thin film transistor (Abstract).

Thus- claim 4 is rejected.

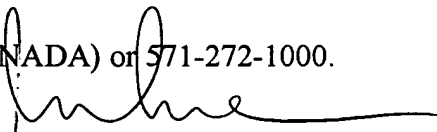
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
07/24/2006



**Dung Nguyen**  
**Primary Examiner**  
**Art Unit 2871**